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ABSTRACT

Part of a longitudinal study of women and their first-born children who have different employment and day care experiences during the children's first three years of life, this study focuses on the socioemotional development of children at 18 months of age, who had received at least nine months of continuous day care. Particular attention is given to the effects of group care in day nurseries, individual care by a relative, individual care by a childminder, and home care by the mother. Data for 166 children were obtained from three measures: a stranger approach/separation/reunion sequence; the first seven items of the Infant Behavior Record, which uses ratings to describe children's behavior during the administration of the Bayley Mental Development Index Scale; and a socioemotional development questionnaire, which was designed to obtain data on children's behavior from the mother's experience. While not supporting parents' belief that nursery care would improve their children's sociability, findings indicate that day care experience did significantly affect children's socioemotional development. Children in nursery care showed less sign of pleasure when approached by a stranger than children in the other groups. Upon separation from the mother in the presence of the stranger, children's concern increased across home, relative, childminder, and nursery groups. Infant Behavior Record data from nursery group children showed that they were less oriented than others to people and were more negative in mood. The socioemotional development questionnaire showed no effects associated with day care experience. (RH)

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INFANT DAY CARE AND SOCIAL BEHAVIOUR: AN ANALYSIS OF HOME, INDIVIDUAL AND GROUP CARE EFFECTS

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The potential influence of non-parental day care upon early child development has attracted a considerable amount of research attention. In recent years this body of research has been reviewed several times. Lamb (1982) in such a review noted that infants under 2 were the age range least studied, most studies being concerned with children over two years of age. The most common aspects of development to have been considered are cognitive development and socio-emotional development. Where socio-emotional development has been the focus of a study then the attachment to the mother has been most often considered, and this has usually been measured by some variation of the Ainsworth and Wittig (1969) Strange Situation procedure.

Considering socio-emotional development Belsky et al (1982) conclude that non-parental day care is not associated with detrimental effects in socio-emotional development for young children. However, the evidence is not as straightforward as such a conclusion implies. Some studies e.g. Vaughn, Gove and Egeland (1980) do find differences in attachment behaviour associated with day care experience, and Rutter (1981) and Lamb (1982) both recognise and refer to the need for further clarification of the relationship between day care and socio-emotional development.

This paper will be concerned with data from a TCRU project on socio-emotional development shown by children at 18 months of age, who by then had received at least 9 months continuous day care. It considers the effects of group care as received in day nurseries where several members of staff are responsible for the care of each child, the effects of individual care, where one caregiver is responsible for the care of each child, the caregiver being either a relative or a child-minder, and the effects of home care provided by the mother.

The two types of data reported in this paper which are based upon direct observation reveal significant effects associated with day care experience, with the children receiving group care being rated more negatively on several aspects of socio-emotional development.

The Study

This paper reports on data from the Thomas Coram Day Care Project currently being conducted at the Thomas Coram Research Unit in London. This is a longitudinal study of women and their first-born children who have different employment and day care experiences during the child's first 3 years of life.

The Sample

The sample of 255 women and their children is made up of four groups:

1. where women do not return to employment
2. where women return to full-time employment and use relatives as caregivers for their child
3. where women return to full-time employment and use childminders as caregivers for their child
4. where women return to full-time employment and use nurseries for their child.

Method

Data on the women and children in the study are collected at four contacts. These occur when the child is 5, 10, 18 and 36 months of age. This paper deals with data collected at the third contact, when the children are 18 months old. At this age there are visits to the home and to the caregiver. The home visits involved the following components:

1) a stranger approach/separation/reunion sequence
2) an interview with the mother
3) a child temperament questionnaire
4) a socio-emotional development questionnaire
5) a Bayley mental development index and infant behaviour record
6) a diary of one week, and child language record.

On first meeting with the child at the start of the home visit the researcher conducted the stranger approach/separation/reunion procedure as follows. First the researcher approached the child in a set sequence involving 6 stages.

At each stage of the approach sequence, the child's reactions were noted. At the end of the approach sequence the mother was asked to leave the room for 2-3 minutes. During this separation the child's behaviour was noted for signs of concern. After this brief separation the mother returned and the child's reactions upon reunion were noted. After this sequence the researcher proceeded with the interview and developmental assessment. The socio-emotional development questionnaire was also completed during this visit and instructions for the temperament questionnaire, diary and language record were covered before the end of the visit. The temperament questionnaire, diary and language record were left with the mother to complete during the following week.

The Bayley m.d.i. scale was conducted as described in the standard manual, and the infant behaviour record was completed after the assessment. This uses 28 different ratings to describe the child's behaviour during the administration of the Bayley Scale.

The socio-emotional development questionnaire has been developed by Mavis Collins who has been attached to the Day Care Project. It is a means of obtaining data on socio-emotional development from the mother's experience of the child. It was developed because no equivalent method existed which was appropriate for 18 months old children. The items have been selected to focus on the child's actual behaviour rather than parental attitudes, although inevitably any parental report technique will to some extent reflect parental as well as child characteristics. The questionnaire has 89 items grouped into the following 8 areas:

Sociability
Emotional expression
Self-punishing behaviours
Empathy
Fear of strangers
Separation from the mother

Tolerance of departures from daily routine
Independence

Results

This paper focusses on data on socio-emotional development for 166 children at 18 months of age. These data derive from 3 different measures, the first two based on observer reports, the third on the mother's report:

1) The stranger approach/separation/reunion sequence.
2) The first seven items of the Infant Behaviour Record. The first seven were selected as they most obviously relate to socio-emotional development. These are responsiveness to persons, mother and examiner, cooperativeness, fearfulness, tension and general emotional tone.
3) The socio-emotional development questionnaire.

Using these data, the relationships between socio-emotional development and the child's experience of day care were investigated.

As the study has progressed there has been considerable change in the day care arrangements of the 4 day care groups. Hence it is necessary to take account of these changes in evaluating the effects of day care experience. The approach to be taken in this paper is to consider groups where there has been no change in type of day care arrangement from the time when the child was 9 months of age to the time when the child was 18 months of age.

Selecting groups where there has been no change in day care arrangement between 9 and 18 months results in the groups shown in Table 1.

Table 1

Home	Relative	Childminder	Nursery
44	25	69	28

Total = 166

For the analyses in this paper, the data derives from the subjects shown in Table 1 where there have been no changes in type of day care from 9 to 18 months of age.

Approach/Separation/Reunion sequence

The data from this sequence were analyzed in 3 stages. Firstly the data on the child's behaviour during the stages of stranger approach were considered. Signs of approach to the stranger or pleasure were coded as positive signs and signs of withdrawal or displeasure were coded as negative signs. The total number of positive signs and the total number of negative signs during the approach were analyzed as dependent variables. In a one way analysis of variance the four day care groups (home, relative, childminder, nursery) in the study were compared.

For the positive signs, the analysis of variance revealed a significant main effect due to day care type ($p < .001$). The signifi-

cant effects were due to the nursery group showing fewer positive signs to the stranger than the other 3 groups.

For the negative signs the same analysis reveals no significant differences due to day care experience. The means for the positive signs in the day care groups can be seen in table 2.

Table 2: Means: Positive Signs to Stranger; Daycare Groups

Home	Relative	Childminder	Nursery
5.70	5.08	6.01	2.50

Combined into 3 day care groups, these figures are:

Table 3: Means: Positive Signs to Stranger; Daycare Groups

Home Care	Individual Care	Group Care
5.70	5.25	2.50

The Separation

The child's behaviour during the brief separation from the mother was coded in terms of the degree of concern or upset shown by the child. The data were grouped into 2 categories, where the children showed none or little concern and where the children showed marked concern.

The distribution of children for the 4 day care groups into these 2 categories is shown in Table 4.

Table 4: Percentage Children Showing Concern at Separation

	Home	Relative	Childminder	Nursery
Little Concern	86%	74%	59%	47%
Marked Concern	14%	26%	41%	53%

The chi2 statistic reveals that the likelihood of a child showing marked concern increases significantly across the 4 day care groups with the children in the home group being least concerned and the children in the nursery group being most likely to show marked concern ($p<.001$).

Reunion

The child's behaviour upon reunion was rated into one of 7 categories which produced 3 summary categories from pleasurable responses through neutral to negative ones.

The great majority of children in the study were positive or neutral in their reactions upon reunion with few children showing negative reactions of ambivalence or avoidance. There were no significant differences amongst the day care groups.

Infant Behavior Record

Ratings for the first seven scales were analyzed.

For these seven scales, the ratings for the four day care groups were compared with the gamma statistic.

For social orientation to persons, the nursery group displayed a statistically significant trend towards lower scores than the children in the other day care groups, ($p<.023$).

For the general emotional tone rating, there was a statistically significant ($p < .05$) trend for the children to show lower ratings indicating less positive mood in moving from the home group to the nursery group.

Socio-emotional development questionnaire

The scores for the 8 scales of the questionnaire were analyzed separately in a one way analysis of variance to compare the 4 day care groups. There were no significant results reflecting differences between the day care groups.

Discussion

Our data provide evidence for a significant effect of day care experience on aspects of socio-emotional development in our sample. In the stranger approach sequence the children who have experienced nursery care show less signs of pleasure when approached by a stranger than the children in the other groups. However, they do not show more displeasure or upset. It is not the case that they appear more upset by the stranger, rather they seem less excited and show less positive signs of emotion. This relative indifference probably reflects the greater experience of a wide range of people that these children have as a consequence of their daycare experience.

When separated from the mother in the presence of the stranger, there is a marked effect of day care experience. The home group seem least concerned, the relative group next most concerned, the childminder group next and the nursery group show the most concern. These differences show a progression on a notional continuum of home individual care, through, to out of home group care. Such a result should not be regarded as necessarily reflecting differences in the attachment of the children to their mothers. Indeed the behaviour of the children upon reunion was comparable for all groups and behaviour at reunion is generally regarded as the most important in the classification of attachment.

The data from this study on the child's behaviour during the stranger approach/separation/reunion sequence should not be regarded as

directly equivalent to that resulting from the Ainsworth and Wittig (1969) Strange Situation. The major difference between the procedures being that the TCRU study's procedure is conducted in the child's home whereas the Strange Situation is conducted in a laboratory. There are other differences in procedure also. However, the results of this procedure do indicate that day care experience does have distinct effects on the 18 months old child's behaviour toward a stranger in the mother's presence. Also there are marked effects associated with day care experience when the mother leaves the child alone with a stranger. The greater concern shown by children who have been receiving non-parental day care cannot be the result of some short-term adjustment to the experience of non-parental day care as these children have been receiving non-parental day care for at least nine months on a continuous basis. Such differences are not necessarily detriments, children will develop different patterns of behaviour which reflect their adaptation to their environment, and one pattern of adaptation cannot automatically be regarded as better than another. Indeed it is a characteristic of the literature in this area that it is overwhelmingly concerned with the issue of 'Is day care bad for children?' without much attention being directed to other effects which may not be best characterised on a good/bad dimension. Also there is a strong tendency for writers in this area to interpret any effect in value-laden terms without much consideration of the appropriateness of such an interpretation.

The data from the infant behaviour record also point to the different socio-emotional behaviour of the children from the nursery group in that they were noted as showing less orientation to people and showing more negative mood. These findings are consistent with the pattern of results from the approach/separaration/reunion sequence.

The two types of data reported in this paper which are based upon direct observation reveal significant effects associated with day care experience. The third type, the socio-emotional development questionnaire which is based on the mother's report reveals no such effects. Such a discrepancy may be due to the following reasons.
1) The items of the questionnaire are not appropriate.
2) The mothers' reports are not sensitive to the differences to the differences between their own children and other children of a similar age. This may be due to lack of experience of a range of similar age children in appropriate situations, or the tendency to idealize the behaviour of their own child.
However the data from the two types of direct observation data are mutually supportive, and the differences reflecting day care experience seem to be consistent.

The children in the 4 day care groups differ in their caregiving experiences, and these differences involve
a) the number of caregivers
b) the adult/child ratio in caregiving
c) the physical environment where caregiving occurrs
Regarding the number of caregivers the home group generally have had 2 main caregivers, the mother and the father. The relative and child-minder groups have had 3 main caregivers, (the parents and the other caregiver) and the nursery have had between 2 and 15 main caregivers or more (Mooney, Martin and Melhuish 1986), as a result of staff

changes and different types of organisation within the nurseries. The adult/child ratio varies from usually one to one for the home group, one to 2.3 for the relative group, one to 3.0 for the childminder group and one to 4.6 for the nursery group (Mooney et al 1986). The home group receive their care almost totally in their own home, the relative and childminder groups receive care in two home environments and the nursery group receive care at home and in an environment which is very different to a home. So taking these factors together it would seem appropriate to order the 4 types of day care on a continuum of similarity thus home-relative-childminder-nursery. This continuum reflects the pattern of differences in socio-emotional development found in these results.

Rutter (1981) noted that the relationship between out of home care and socio-emotional development clearly warrants further study. This viewpoint follows from the confusing pattern of research findings in this area. One aspect of the confusion in this area has been the neglect of the potential importance of the age of the child when entering non-parental day care. Vaughn et al. (1980) found that non-parental day care was associated with insecure infant-mother attachment when the day care started in the first year of life, but not when the day care started after the child's first birthday. The children in the study reported in this paper started non-parental day care usually around 7 months of age. All had entered non-parental day care by 9 months of age. The effects associated with day care experience in this study may well be related to this early start of non-parental day care. The effects of day care experience in this study are strongest for the nursery group who receive group day care and are substantially less for the relative and childminder groups who receive individual day care. Those studies which find no relationship between socio-emotional development and day care typically involve children who start non-parental day care considerably later, often when the children are in the second year of life which may be relevant in considering the children's pattern of adaptation to their social environment.

Another aspect of great relevance in considering day care effects is the social context in which day care occurs. It is important to realise that day care effects which emerge in one society may not appear in another. This may be due to
a)differences in the characteristics of the day care available, and
b)differences in the people who choose to use or not use day care in different societies.
As for the differences between societies, a Swedish study by Cochran (1977), which used a similar procedure to the TCRU study, did not find differences in children's reactions upon being separated from the mother associated with non-parental day care experience, whereas the TCRU study in London does. It is likely that the greater availability and usage of non-parental daycare in Sweden and the greater resources devoted to day care result in a different quality of non-parental day care in Sweden than in Britain. Hence qualitative differences in non-parental day care between Sweden and Britain may acount for the different results, and it is important in any consideration of day care and its effects to include the issue of societal context because the users of day care and the characteristics of day care do vary widely between societies.

Equally important to note is that generalising from our results concerning the effects of group care is made difficult by the nature of the sample of nurseries used, all non-statutory day nurseries in the Greater London area. The nursery group used in this study was selected from 18 out of 33 day nurseries taking babies, but not from any statutory day centres. This is a result of the fact that as Moss and Brannen (1986) point out "...the State makes no provision for children whose parents are in full-time employment, either directly through council-run services or indirectly through supporting non-statutory services or providing childcare subsidies to parents". Moreover, parents in higher and lower status occupations do not have equal access to these nurseries where available, since they are mainly work-based. These nurseries are mainly provided by employers with large numbers of women in professional or managerial jobs among their workforce. Of the 28 children in the nursery group used for this paper, only 4 had mothers in lower status occupations.

When, during the first and second contact in this project, the mothers were interviewed about their day care preferences, one of the perceived advantages of group care frequently mentioned was that it would make the children more 'sociable'. Differences in the quantity of exposure to adults and peers between group, home and individual care were thought to encourage in the nursery children positive interaction with a wide range of people.

It is perhaps ironical that our findings do not support the parents' supposition although maybe they will in the longer term. Qualitative differences in social interactions experienced in the various day care settings may be primarily responsible for the differences in socio-emotional development reported in this paper. In future papers an attempt will be made to identify these differences and account for their origins.

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